

IN THE CLAIMS:

1. (Currently Amended) A method of transcoding a primary encoded signal (S1) comprising a sequence of pictures, into a secondary encoded signal (S2), said method of transcoding comprising at least the steps of: decoding a current picture of the primary encoded signal, said decoding step comprising a dequantizing sub-step (12) for producing a first transformed signal (R1), encoding, following the decoding step, for obtaining the secondary encoded signal, said encoding step comprising a quantizing sub-step (13), ~~characterized in that~~wherein said method of transcoding further comprises a filtering step between the dequantizing sub-step and the quantizing sub-step, said filtering step using a recursive filter.

2. (Currently Amended) A method of transcoding as claimed in claim 1, comprising a step of predicting a transformed motion-compensated signal ~~(Rme)~~ from a transformed encoding error ~~(Re)~~ derived from the encoding step, said prediction step being situated between the encoding and decoding steps, ~~characterized in that~~wherein the recursive filtering step is a ~~temporal filtering step (21)~~ for receiving the transformed motion-compensated signal and the first transformed signal ~~(R1)~~ and for delivering a filtered transformed signal ~~(Rf)~~ to the quantizing sub-step.

3. (Currently Amended) A method of transcoding as claimed in claim 2, ~~wherein~~characterized in that the ~~temporal~~recursive filtering step ~~(21)~~ is intended to use a recursive filter such as: $Rf[i] = (1 - \alpha[i]) (R1[i] + Rmc[i])$, where $Rf[i]$, $R1[i]$ and $Rmc[i]$ are transformed coefficients comprised in the transformed signals (Rf , $R1$, Rmc) and $\alpha[i]$ is a filter coefficient comprised between 0 and 1.

4. (Currently Amended) A method of transcoding a primary encoded signal comprising a sequence of pictures, into a secondary encoded signal, said method of transcoding comprising at least the steps of:

decoding a current picture of the primary encoded signal, said decoding step comprising a dequantizing sub-step for producing a first transformed signal,

encoding, following the decoding step, for obtaining the secondary encoded signal, said encoding step comprising a quantizing sub-step, wherein said method of transcoding further comprises a filtering step between the dequantizing sub-step and the quantizing sub-step; and

A method of transcoding as claimed in claim 1, comprising a step of predicting a transformed motion-compensated signal (R_{mc}) from a transformed encoding error (R_e) derived from the encoding step, said prediction step being situated between the encoding and decoding steps, characterized in that wherein the filtering step is a spatial filtering step (31) for receiving the first transformed signal (R_1) and for producing a filtered transformed signal (R_f), said filtered transformed signal and the transformed motion-compensated signal being delivered to the quantizing sub-step (13).

5. (Currently Amended) A method of transcoding a primary encoded signal comprising a sequence of pictures, into a secondary encoded signal, said method of transcoding comprising at least the steps of:

decoding a current picture of the primary encoded signal, said decoding step comprising a dequantizing sub-step for producing a first transformed signal,

encoding, following the decoding step, for obtaining the secondary encoded signal, said encoding step comprising a quantizing sub-step, wherein said method of transcoding further comprises a filtering step between the dequantizing sub-step and the quantizing sub-step; and

~~_____ A method of transcoding as claimed in claim 1, comprising a step of predicting a transformed motion-compensated signal (R_{mc}) from a transformed encoding error (R_e) derived from the encoding step, said prediction step being situated between the encoding and decoding steps, characterized in that the filtering step is a spatial filtering step (41) for receiving the transformed motion-compensated signal and the first transformed signal (R_1) and for delivering a filtered transformed signal (R_f) to the quantizing sub-step (13), the encoding step further comprising an inverse filtering sub-step (42).~~

6. (Currently Amended) A method of transcoding a primary encoded signal comprising a sequence of pictures, into a secondary encoded signal, said method of transcoding comprising at least the steps of:

_____ decoding a current picture of the primary encoded signal, said decoding step comprising a dequantizing sub-step for producing a first transformed signal.

_____ encoding, following the decoding step, for obtaining the secondary encoded signal, said encoding step comprising a quantizing sub-step, wherein said method of transcoding further comprises a filtering step between the dequantizing sub-step and the quantizing sub-step; and

~~_____ A method of transcoding as claimed in claim 1, comprising a step of~~
~~_____ predicting a transformed motion-compensated signal (R_{mc}) from a transformed encoding error (R_e) derived from the encoding step, said prediction step being situated between the encoding and decoding steps, ~~wherein~~ characterized in that the filtering step is a spatial filtering step (51) for receiving the transformed motion-compensated signal and the first transformed signal (R_1) and for delivering a filtered transformed signal (R_f) to the quantizing sub-step (13), said spatial filtering step being only applied to intra-coded macroblocks contained in the current picture.~~

7. (Original) A method of transcoding as claimed in claim 6, characterized in that it further comprises a detection step for giving a label to a current macroblock, the spatial filtering step being adapted to apply a filter to the current macroblock as a function of said label.

8. (Currently Amended) A device for transcoding a primary encoded signal ~~(S1)~~ comprising a sequence of pictures, into a secondary encoded signal ~~(S2)~~, said device comprising at least: a decoding unit for decoding a current picture of the primary encoded signal, said decoding unit comprising a dequantizing circuit ~~(12)~~ for producing a first transformed signal ~~(R1)~~, an encoding unit for obtaining the secondary encoded signal, said encoding unit comprising a quantizing circuit ~~(13)~~, characterized in that said transcoding device further comprises a recursive filter circuit between the dequantizing circuit and the quantizing circuit.

9. (Currently Amended) A transcoding device as claimed in claim 8, comprising a prediction unit for predicting a transformed motion-compensated signal ~~(Rme)~~ from a transformed encoding error ~~(Re)~~ derived from the encoding unit, said prediction unit being situated between the encoding unit and the decoding unit, ~~wherein~~ characterized in that the recursive filter circuit is a ~~temporal filter circuit (21)~~ for receiving the transformed motion-compensated signal and the first transformed signal ~~(R1)~~ and for delivering a filtered transformed signal ~~(Rf)~~ to the quantizing circuit ~~(13)~~.

10. (Currently Amended) A device for transcoding a primary encoded signal comprising a sequence of pictures, into a secondary encoded signal, said device comprising at least: a decoding unit for decoding a current picture of the primary encoded signal, said decoding unit comprising a dequantizing circuit for producing a first

transformed signal, an encoding unit for obtaining the secondary encoded signal, said encoding unit comprising a quantizing circuit, said transcoding device further comprising:
_____ a filter circuit between the dequantizing circuit and the quantizing circuit;
transcoding device as claimed in claim 8, comprising and
_____ a prediction unit for predicting a transformed motion-compensated signal (R_{me}) from a transformed encoding error (R_e) derived from the encoding unit, said prediction unit being situated between the encoding unit and the decoding unit,
_____ wherein characterized in that the filter circuit is a spatial filter circuit (34) for receiving the first transformed signal (R_1) and for producing a filtered transformed signal (R_f), said filtered transformed signal and the transformed motion-compensated signal being delivered to the quantizing circuit (13).

11. (Currently Amended) A device for transcoding a primary encoded signal comprising a sequence of pictures, into a secondary encoded signal, said device comprising at least: a decoding unit for decoding a current picture of the primary encoded signal, said decoding unit comprising a dequantizing circuit for producing a first transformed signal, an encoding unit for obtaining the secondary encoded signal, said encoding unit comprising a quantizing circuit, wherein said transcoding device further comprises:
_____ a filter circuit between the dequantizing circuit and the quantizing circuit;
transcoding device as claimed in claim 8, comprising
_____ a prediction unit for predicting a transformed motion-compensated signal (R_{me}) from a transformed encoding error (R_e) derived from the encoding unit, said prediction unit being situated between the encoding unit and the decoding unit,
_____ wherein characterized in that the filter circuit is a spatial filter circuit (41) for receiving

the transformed motion-compensated signal and the first transformed signal-(R1) and for delivering a filtered transformed signal-(Rf) to the quantizing circuit-(13), the encoding unit further comprising an inverse filter circuit-(42).

12. A device for transcoding a primary encoded signal (S1) comprising a sequence of pictures, into a secondary encoded signal (S2), said device comprising at least: a decoding unit for decoding a current picture of the primary encoded signal, said decoding unit comprising a dequantizing circuit (12) for producing a first transformed signal (R1), an encoding unit for obtaining the secondary encoded signal, said encoding unit comprising a quantizing circuit (13), wherein said transcoding device further comprises a filter circuit between the dequantizing circuit and the quantizing circuit~~A transcoding device as claimed in claim 8, comprising~~
~~_____~~ a prediction unit for predicting a transformed motion-compensated signal-(Rme) from a transformed encoding error-(Re) derived from the encoding unit, said prediction unit being situated between the encoding and decoding units, ~~wherein~~~~characterized in that~~ the filter circuit is a spatial filter circuit-(51) for receiving the transformed motion-compensated signal and the first transformed signal-(R1) and for delivering a filtered transformed signal-(Rf) to the quantizing circuit-(13), said spatial filter circuit being only applied to intra-coded macroblocks contained in the current picture.

13. (Original) A transcoding device as claimed in claim 12, characterized in that it further comprises a detection circuit for giving a label to a current macroblock, the spatial filter circuit being adapted to apply a filter to the current macroblock as a function of said label.

14. (Original) A computer program product for a digital video recorder, which

computer program product comprises a set of instructions, which, when loaded into said digital video recorder, causes the digital video recorder to carry out the method as claimed in claim 1.

15. (Original) A computer program product for a set-top-box, which computer program product comprises a set of instructions, which, when loaded into said set-top-box, causes the set-top-box to carry out the method as claimed in claim 1.